

REMARKS

Entry of the foregoing, reexamination and reconsideration of the above-identified application as amended are respectfully requested.

Claim 2 has been objected to because of the informality that the number "2" appears before "lower." The claim has been amended as suggested by the Examiner. This objection should thus be withdrawn.

Claims 1, 2, 7-12 and 19-28 have been rejected under 35 U.S.C. §112, second paragraph, as allegedly being indefinite. According to the Examiner, the scope of the phrase "essential oil components" is unknown. The definiteness of the claim term must be judged not in a vacuum, but whether one skilled in the art would understand the meaning of the term based upon the disclosure. Here, the term read in light of the specification would be sufficiently definite. One skilled in the art would understand what is meant by the phrase "essential oil components." Moreover, the specification describes how such components are measured, for example, at page 15, lines 32-35. Withdrawal of this rejection is respectfully requested and believed to be in order.

Claims 7-12 and 19-23 are cited as being indefinite because they depend from canceled claims. This rejection is now moot in view of the amendments to the claims to depend from pending claims. Withdrawal of this rejection is thus respectfully requested and believed to be in order.

Claim 2 has been rejected under 35 U.S.C. §102(b) as allegedly being anticipated by Haeffner et al, U.S. Patent No. 5,011,594. According to the Examiner, it is assumed

that the ratio of essential oil components to alpha acids is the same because the processes of the cited patent and that claimed are allegedly the same. This rejection is respectfully traversed.

Haeffner et al fails to anticipate, or even render obvious, applicants' claimed invention. This reference neither discloses nor suggests the specific extraction conditions recited in applicants' claims. The Official Action asserts that Example 3 teaches the treatment of hops with supercritical carbon dioxide. However, this assertion is in error. In Example 3, "hop extract starting material", not hops *per se*, is treated with supercritical carbon dioxide. The hop extract starting material is prepared by extracting hops with ethanol. This Example thus fails to teach the treatment of hops with supercritical carbon dioxide as instantly claimed. Nor would it have been obvious that the hops should be treated with supercritical carbon dioxide as instantly claimed. Since the reference fails to teach the treatment of hops *per se*, it fails to teach a process wherein an essential oil-rich hop extract will be produced as instantly claimed.

Nor does Haeffner teach that the hops should be extracted at one specific temperature and then the separation steps should be performed at different temperatures, as claimed by applicants.

Withdrawal of this rejection is respectfully requested and believed to be in order.

Claim 1 has been rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Haeffner et al. According to the Examiner, it would have been obvious to optimize the extraction pressure to produce a desired extract. This rejection is respectfully

traversed.

As stated *supra*, in Haeffner et al "hop extract starting material", not hops *per se*, is treated with supercritical carbon dioxide. This treatment of hop extract starting material would in no way suggest that hops should be treated with supercritical carbon dioxide solvent, as recited in claim 1, to produce an essential oil-rich hop extract having the ratio of essential oil components as claimed.

Withdrawal of this rejection is respectfully requested and believed to be in order.

Claims 1, 2 and 7-28 have been rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over ANH (BE Pat. No. 1897012) in view of Krasd Food (U.S. Patent No. 1,601,112). This rejection is respectfully traversed.

ANH allegedly teaches a process for the use of spent hops to produce a wort and subsequent beer. Krasd Food allegedly discloses using the waste from a CO₂ extraction process along with the CO₂ extract in the production of wort. The Official Action asserts that it would have been obvious to use a CO₂ extract as in Krasd Food in the process of ANH as CO₂ extracts are well known and used.

Contrary to the Official Action, ANH and Krasd Food are unrelated to the instantly claimed invention. ANH relates to the use of resinous extract and tannin liquid extract to powdery hop residue. Krasd Food relates to the addition of a hop extract, etc., to wort. Neither of these references, alone or in combination, disclose or even suggest a process for production of an essential oil-rich hop extract, wherein the hops is extracted with supercritical or subcritical carbon dioxide solvent. Both of the cited references relate to

"waste spent hops" and fail to disclose extraction of hops *per se*, which is what is recited in the process of applicants' claims.

Nor does either of the references disclose or even suggest a process wherein hops is extracted with supercritical or subcritical carbon dioxide solvent or the use of specific extraction and separation pressures in a process for producing a hop extract as instantly claimed. Furthermore, the cited art fails to teach the use of a hop extract produced by such a process.

In view of the above, withdrawal of the rejection of the claims under §103(a) is respectfully requested. Such action is believed to be in order.

In view of the above, further and favorable action in the form of a Notice of Allowance is respectfully requested. Such action is believed to be in order.

In the event that there are any questions relating to this amendment, or to the application in general, it would be appreciated if the Examiner would telephone the undersigned attorney concerning such questions so that prosecution of this application may be expedited.

Respectfully submitted,

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